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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/937,102	01/23/2002	Hanns Rump	MSA244	8020

7590
Horst M Kasper
13 Forest Drive
Warren, NJ 07059

07/23/2003

EXAMINER

SINES, BRIAN J

ART UNIT	PAPER NUMBER
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1743

DATE MAILED: 07/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n No.

09/937,102

Applicant(s)

RUMP ET AL.

Examin r

Brian J. Sines

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-- The MAILING DATE of this c mmunication appears on the cover she t with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Pri rity under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 5 and 8 – 27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5 recites the limitation "plastic foil" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: it is unclear as what is the intended meaning of "perturbation switch on" in line 6. Is the perturbation a signal response or other change in the gas being measured?

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 4, 6 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Grace et al. (U.S. Pat. No. 4,911,892). Regarding claims 1, 2, 4 and 7, Grace et al. teach a gas sensor comprising a sensor element having a gas sensitive layer (metal

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oxide film, 34) and wherein the sensor element is electrically heatable with a heating structure (platinum film heater, 28), and wherein the sensor element (34) is disposed in a casing (non-porous glass layer, 32). Grace et al. teach that the casing (32) has a diffusion layer (porous sintered glass layer, 52). It is inherently anticipated that the glass material of which the diffusion layer (52) and the casing (32) is made, is thermally insulating (see col. 5, lines 20 – 68; col. 6, lines 1 – 65; figures 2, 2A, 4 & 5).

Claims 8 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Raff et al. (U.S. Pat. No. 4,463,594). Regarding claim 8, Raff et al. anticipate a method for operating a sensor element, wherein the method is characterized in that the temperature of the sensor is automatically controlled and a temperature set-point value or range is varied by a perturbation value switch, such as those sensor output signals resulting from lean or rich operating conditions, depending upon the behavior of the sensor signal. Raff et al. teach that the sensor can be used in temperature ranges, which are high, as well as those temperature ranges which are low, while obtaining the same control accuracy (see col. 2, lines 5 – 51). Raff et al. teach that the output signal of the sensor is changed if the effluent gas shifts from a lean condition to a rich condition (see col. 2, lines 53 – 63). Regarding claim 9, Raff et al. teach that the short evaluation time of the signal can be obtained by utilizing a comparator, which tests the temperature signal with respect to a predetermined reference (see col. 3, lines 37 – 56).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grace et al. in view of Klass et al. (U.S. Pat. No. 3,864,628). Grace et al. do not specifically teach the incorporation of a gas-permeable plastic foil, or a gas-permeable Teflon membrane or filter. Grace et al. do teach that the sensing apparatus is used to determine the presence and concentration of selected polluting, toxic and combustible gases (see col. 4, lines 5 – 15). Klass et al. teach that different gases have different characteristic time-responses with particular membranes. Such membranes are generally selected so that the permeation of the gas to be sensed is high relative to the permeability constants of the other gases which may be present in a gas mixture. Klass et al. teach a gas sensor which incorporates the use of a gas-permeable Teflon membrane in a sensor used in the detection of hydrogen gas (see col. 3, lines 47 – 68; col. 4, lines 1 – 57). Furthermore, the Courts have held that the selection of a known material, based upon its suitability for the intended use, is within the ambit of one of ordinary skill in the art. See *In re Leshin*, 125 USPQ 416 (CCPA 1960). Therefore, it

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would have been obvious to one of ordinary skill in the art to incorporate the use of a Teflon membrane, as taught by Klass et al., with the sensing apparatus, as taught by Grace et al., in order to provide for effective hydrogen gas sensing.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Abthoff et al. teach a gas sensor comprising a protective tube made of either a sintered metallic or ceramic material. Addegio teaches a metal oxide sensor for detecting hydrocarbons. Akatsuka teaches an oxygen sensor incorporating the use of a Teflon filter. Advani et al. teach a gas measurement method for metal oxide gas sensors which incorporates the use of thermal cycling. Nielsen teaches method and means for temperature compensation in exhaust gas sensor measurements. Kushida et al. teach a circuit for converting a temperature dependent input signal to a temperature independent output signal.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian J. Sines whose telephone number is (703) 305-0401. The examiner can normally be reached on Monday - Friday (11:30 AM - 8 PM EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill A. Warden can be reached on (703) 308-4037. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

BJS
July 14, 2003


Jill Warden
Supervisory Patent Examiner
Technology Center 1700